REMARKS

Applicant(s) and Applicant's attorneys express appreciation to the Examiner for the courtesies extended during the recent interview held on May 19, 2005. This response includes the substance of the interview. The present Amendment is in response to the Examiner's Final Office Action mailed December 21, 2004. Claims 1, 10, 12, and 20 are amended. Claims 1-22 are now pending in view of the above amendments.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. In addition, Applicants request that the Examiner carefully review any references discussed below to ensure that Applicants understanding and discussion of the references, if any, is consistent with the Examiner's understanding.

I. PRIOR ART REJECTIONS

A. Rejection Under 35 U.S.C. § 103

Claims 1-5, 9-17, 20 and 21 under 35 U.S.C. § 103 are rejected as being unpatentable over *Telefus, et al.* (United States Patent Publication No. 2002/0008501) in view of *Alwan* (United States Patent Publication No. 2003/0066947 A1). As discussed in the interview and described in detail below, the claims are allowable over *Telefus* in view of *Alwan* at least for the reason that it would not have been obvious to combine *Telefus* with *Alwan* to provide the dual functionality of a microprocessor as recited in the claims as currently presented. The claims have been amended to more clearly describe this dual functionality of the microprocessor and it is the Applicants belief that they are in condition for allowance at least for this reason.

Telefus discloses a switching power converter wherein a controller determines whether cycles of a drive signal to a power switch define pulses of a power at a load. *See* Abstract. *Telefus* teaches where the controller, in response to comparing an output voltage to a desired level of output voltage, controls whether a free-running oscillator and power switch produce a pulse of power. *See* Para. 35. *Telfus* further describes that the oscillation frequency may be constant or very randomly. *See* Id. *Telfus* describes where the controller can block the drive signal through a oscillator gate.

Alwan discloses attenuation and calibration systems and methods for use with a laser detector in an optical communication system. *See* Title. *Alwan* describes systems for allowing a beam of light to operate at an adequate power level that provides a robust optical link while minimizing safety risk to humans. *See* Abstract. The system also calibrates and controls a gain for an avalanche photodiode detector. *See* Abstract. Figure 9 of *Alwan* is a block diagram of a control module configured to optimize the characteristics of a receiver. *See* Para. 90. The controller includes a turret control module, a processor, and a switch. *See* Para. 90. The processor is programmable and receives a temperature signal. *See* Para 90. The processor also receives power output signal of a photodiode detector. *See* Para 90. The processor determines if the output power level of the photodiode exceeds a saturation threshold level for the photodiode detector. *See* Para 115. If the output power level exceeds the saturation threshold level of the photodiode detector the processor enables an optical attenuator that is located in a path between the communication beam and the photodiode detector. *See* Para 116. If the output power level of the photodetector is below a minimum threshold level of the photodiode detector the processor disabling the optical attenuator and the processor continues to monitor the laser power output. *See* Para 117.

A claimed invention is unpatentable for obviousness if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. 35 U.S.C. § 103(a) (2004);

Graham v. John Deere Co., 383 U.S. 1, 14, 148 USPQ 459, 465 (1966). Obviousness is a legal question based on underlying factual determinations including: (1) the scope and content of the prior art, including what that prior art teaches explicitly and inherently; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17-18, 148 USPQ at 467.

It is well established that "every limitation positively recited in a claim must be given effect in order to determine what subject matter that claim defines." *In re Wilder*, 166 USPQ 545, 548 (CCPA 1970) (emphasis added). Although it may be possible to find two isolated disclosures that might be combined in such a way to produce the [invention] does not necessarily render such production obvious unless the art also contains something to suggest the desirability of the proposed combination. *In re Bergel*, 130 USPQ 206, 208 (CCPA 1961). The teaching or suggestion to make the modification or combination of prior art and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

As discussed in the recent interview, neither *Telefus*, nor *Alwan* disclose every limitation of the claims as currently presented. Neither *Telefus*, nor *Alwan* teach the dual functionality of the microprocessor recited in the claims. According to the present invention, the microprocessor not only monitors a characteristic, such as temperature, of a device within a transceiver, such as a laser diode or photodiode, but also monitors a load supplied to the device within the transceiver. In addition, the microprocessor controls a pulse-width modulated signal in response to both the characteristic monitored and the load supplied to the device.

This arrangement results in several advantageous results. For example, the present invention can result in a more flexible implementation without increasing size or component count within a transceiver. The present invention recognizes that a microprocessor can be present in a transceiver design and can provide the dual functionality of monitoring a characteristic of a device within a transceiver, monitoring a current supplied to a load, and controlling a boost converter. In this manner, different gain characteristics can be implemented without the need to add additional external or internal components to a boost converter controller or a transceiver controller. Thus, for these reasons as well as others, the present invention is allowable over *Telefus* in view of *Alwan*.

Claims 6, 7, 18, 19 and 22 are rejected under 35 U.S.C. § 103 as being unpatentable over *Telefus, et al.* (United States Patent Publication No. 2002/0008501) in view of *Alwan* (United States Patent Publication No. 2003/0066947 A1) and *Killat* (United States Patent No. 6,448,745). The office action combines *Killat* in order to provide a voltage divider to scale the input to the ADC in a boost converter using digital control. For at least the reasons discussed above, the claims as currently presented are allowable over the combination of *Telefus*, *Alwan* and *Killat*.

Claim 8 is rejected under 35 U.S.C. § 103 as being unpatentable over *Telefus, et al.* (United States Patent Publication No. 2002/0008501) in view of *Alwan* (United States Patent Publication No. 2003/0066947 A1) and *Mitsuishi, et al.* (United States Patent No. 5,736,948 A). *Mitsuishi* is combined with *Telefus* and *Alwan* to provide an ADC internal to the microprocessor. For at least the reasons discussed above, the claims as currently presented are allowable over the combination of *Telefus*, *Alwan* and *Mitsuishi*.

CONCLUSION

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 20th day of June, 2005.

Respectfully submitted,

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